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## IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

## Listing of Claims

Claim 1 (canceled).

2. (currently amended)A packet communication apparatus for transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, said packet communication apparatus comprising:

a packet generating unit which generates a second header used to compose a closed network in the second network based on the IP address and information in the first header; and

a transmitter which transmits a packet having added thereto said second header-,

wherein the first and second networks are networks that implement the IP.

3. (previously presented) A packet communication apparatus according to claim 2, further comprising:

a processing unit which replaces the first header with the second header.

4. (previously presented) A packet communication apparatus according to claim 2, further comprising:

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a route decision processing unit which decides a route to the second network according to the IP address and information in the first header.

5.      (previously presented)    A packet communication apparatus according to claim 2, wherein the packet is an IP packet.

6.      (currently amended)A    packet    communication    method    of transmitting a packet from a first network to a second network, wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, the packet communication method comprising the steps of:

receiving the packet; and

generating a second header used to compose a closed network in the second network based on the IP address and information in the first header-,

wherein the first and second networks are networks that implement the IP.

7.      (previously presented)    A    packet    communication    method according to claim 6, further comprising the step of:

replacing the first header with the second header.

8.      (previously presented)    A    packet    communication    method according to claim 6, further comprising the step of:

deciding a route to the second network according to the IP address and information in the first header.

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9.    (previously presented)    A packet communication apparatus according to claim 4, wherein the packet is an IP packet.

10.    (currently amended)A    packet    communication    system comprising:

a first network;

a second network; and

a router which transmits a packet from the first network to the second network,

wherein the packet includes an Internet Protocol (IP) address and a first header used to compose a closed network in the first network, and

wherein the router generates a second header used to compose a closed network in the second network based on the IP address and information in the first header,

wherein the first and second networks are networks that implement the IP.

11.    (previously presented)    A packet communication system according to claim 10, wherein the router replaces the first header with the second header.

12.    (previously presented)    A packet communication system according to claim 10, wherein the router decides a route to the second network according to the IP address and information in the first header.

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13.    (currently amended)A packet communication apparatus for

transmitting a packet from a first network to a second network, wherein the

packet includes an Internet Protocol (IP) address and a first header used to

compose a closed network in the first network, said packet communication

apparatus comprising:

an index generating unit which generates an index based on the IP

address and information in the first header;

a packet generating unit which generates a second header used to

compose a closed network in the second network based on the index; and

a transmitter which transmits a packet having added thereto said

second header-,

wherein the first and second networks are networks that implement the

IP.


14.    (previously presented)    A packet communication apparatus

according to claim 13, further comprising:

a processing unit which replaces the index with the second header.


15.    (previously presented)    A packet communication apparatus

according to claim 13, further comprising:

a route decision processing unit which decides a route to the second

network according to the IP address and information in the first header.


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